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ABSTRACT

Interest in early means of communication and in the uses and kinds of media that existed in ancient cultures is starting to grow among communication scholars. Conversation analysis of these cultures is obviously impossible, so that the emphasis must rest with material cultural artifacts. Many ancient cultures used non-verbal codes for dyadic communication. These cultures also applied their ingenuity to the problem of extending communications across distance and space, including smoke and whistle languages. The distinguishing characteristics of whistle languages have been identified. Trade and transportation networks were widely utilized for extending communication beyond the limits of smoke and whistling. Record keeping, often in extensive library facilities, was the primary method for extending communication over time. A particularly sophisticated method of record keeping was the "quipu" used by the Incas of Peru, a system of knotted cords that somewhat resembled old mops. Artworks, such as painting on ceramic vessels, provide insight into cultural lifestyles and information, and often pottery shards contained short notes. Incised stones were sometimes used for the same purposes. In short, what may have been characterized as pre-literate cultures actually possessed a vast array of communication media that were innovative, flexible, adaptive and functional. (HB)

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Communication Media in Ancient Cultures

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INTRODUCTION

Until recently little interest has been paid by scholars in the Communication discipline to communication in ancient or pre-literate cultures. Although more interest has been seen in Anthropology in general and Archaeology in particular, that scholarship has concentrated on such dramatic archaeological finds as the painting on Greek pottery, libraries of clay tablets from the Sumer culture, the papyrus scrolls discovered in the dry caves of Kumran on the west bank of the Dead Sea and the paintings and carvings on stone stella and building walls and tombs in Egypt which were unlocked by the discovery of the Rosetta Stone.

Interest in early means of communication is beginning to take hold among scholars in Communication. In their book *Communication in History: Technology, Culture, Society*, authors Crowley and Heyer devote the first section to "Media in Early Civilization." This includes four papers on somewhat unrelated but significant topics. The first on "The Art and Symbols of Ice Age Man" reviews archaeological evidence of some of the earliest carving and painting on rock, ivory and antler, one dating to c. a. 45,000 B.C. (Crowley and Heyer, pp. 10-20)

A second paper in Crowley and Heyer discusses "The Earliest Precursor of Writing" including archaic script, token assemblages, the use of symbols for economic units and the earliest precursor of numerals. More importantly, this essay discusses the importance of record keeping and the control of information as an instrument of control and power in a culture.

The third essay, by Harold Innis is entitled "Media in Ancient Empires." It discusses the transition "from stone to papyrus," "papyrus technology,"

and the use of cuneiform writing on clay tablets among the city-states of Sumer. Innis also discusses the effects of writing on equality as well as the effects of change.

The fourth paper in Crowley and Heyer discusses the somewhat exotic and specialized use of the quipu or cord language by the Inca culture. This medium will be discussed in more detail later.

The first three of the foregoing papers provide an excellent overview of the better known media of rock carving, papyrus and clay carving. It is the purpose of this paper to discuss a selection (by no means comprehensive) of lesser-known Communication Media used in ancient and recent non-literate cultures and thereby provide a context for three papers reporting recent research in media of communication used in the Southwest United States by pre-Columbian cultures.

In *Understanding Media*, Marshall McLuhan (1964) treats a wide variety of media as extensions of man. Following McLuhan, I will begin with dyadic communication media and progress to media used in an ever expanding scope of space and time.

INTERPERSONAL MEDIA

Conversation analysis of historic, let alone pre-historic cultures, is impossible. The archaeological record is strongly biased in favor of non-biodegradable materials. Or put another way, sticks and stones, not words, are what we have to work with. In response to this dilemma,

archaeologists have begun to follow their anthropologist colleagues and rely on contemporary analogues as a lens into the distant past.

As an example, in the summer of 1989, Susan, Garvin and I had the opportunity to participate in a season of excavation of the Temple of the Winged Lions in Petra, Jordan. In addition to twenty volunteers like ourselves, the project hired as many Bedouin boys and young men to assist in the heavy labor of moving the excess dirt. Ironically, on July 4, for reasons unknown to me, the boys rebelled. The project director summarily dismissed them. The next morning at 5:00 a.m., barely twelve hours later, several dozens of new men and boys reported for work. In the Jordanian desert, without benefit of modern technology, the message had been carried to a radius of at least five miles via interpersonal communication networks. Surely, by analogy, similarly efficient networks must have been used by most cultures in ancient times.

Non Verbal Media

Many cultures used, and continue to use, non-verbal codes for dyadic communication. Among the Surma culture of Ethiopia, body painting, dancing and artifacts have been carried to an elaborate level. Beckwith and Fisher (1991) report how body painting combined with stick dancing have provided a symbolic substitute for war. In addition, body painting is used by young women to attract a mate. (Beckwith and Fisher, pp. 86-87)

A particularly unusual use of an artifactual code is the use of lip and ear plates by Surma females. Lip and ear plates are perceived not only as attractive but also as a sign of wealth and value. The larger the plate a

young woman carries, the more cattle her prospective husband must pay to her father for her hand in matrimony. (Beckwith and Fisher, pp. 88-89)

SIGNALLING: Extending Communication Over Distance

Ancient and pre-literate cultures also applied their ingenuity to the problem of extending communication across space or distance. Two means of signalling utilized by North American Indians, that is, the mimicking of bird whistles and the use of both fire and smoke signals are well-known. (Payne, 1978, Bingham,) A well-researched example of the use of line-of-sight fire signals around Chaco Canyon in New Mexico will be reported by Professor Gwyn Vivian later on this afternoon's panel.

Whistle Language

A less known but remarkably widespread means of extending communication by signalling over relatively inaccessible distances is the development of whistle languages. On a field trip in Guatemala in 1977, sociolinguist Arvilla Payne (1978) reports encountering two young men communicating via a system of complex whistles. It appeared upon further investigation that the tradition dated back perhaps hundreds of years to the men's Mayan Indian cultural heritage.

Reports of the use of whistle language were made as early as 1887 on the island of La Gomera in the Canary Islands. (Quedenfeldt, 1887; Verneau, 1891) Other investigators have reported the use of whistle languages in such diverse locations as the French village of Aas in the Pyrenees; among

the Mazatec Indians in the State of Oaxaca, Mexico (Cowan); and in the Turkish village of Kuskoy. (Frost)

Whistle language has been described as a "surrogate" language (Payne) and as an "adjunct" language (Cowan). It gives new meaning to the contemporary phrase "second language." Coding in a whistle language can be accomplished either by tongue movements, which are referred to as articulatory whistle languages, or by varying the tones, as in a partially tonal language like Chinese. (Payne, 1978)

Payne summarizes a few of the distinguishing characteristics of whistle languages:

1. Whistle languages tend to emerge in geographic areas where distance and terrain make other means of communication more difficult, that is rural, often mountainous areas. (Payne, p. 19)
2. "The social status of the whistle language in Guatemala is lower class. . . the majority of the people could learn the whistle language, but they looked down on it and did not want to learn it." (Payne, p. 17)
3. "As in the case of the Mazatec, however, use of the Guatemalan whistle language is limited primarily to men. . . The sex restriction does not apply in Aas, Kuskoy and La Gomera, where men and women are equally skilled in the use of whistle language." (Payne, p. 19)

As might be expected, the use of whistle languages tend to diminish with the encroachment of modern transportation and communication technology.

TRADE AND TRANSPORTATION

A widely utilized method for extending communication over much greater distances than was possible with signalling, was the use of trade and transportation networks. The use of trails and roads as communication networks has been well documented during historic times. (McIntyre, 1975, Jabusch, 1991) McLuhan (1964) credits this control and dissemination of information with not only the extension of power but settlement patterns as well. (McLuhan, pp. 90-104)

As an example of the use of roads for communication in prehistoric times, the system of roads radiating out from Chaco Canyon will be described by Professor Vivian as part of the "Chaco Phenomenon." Later, on this panel, Dr. Richard Houk will report his research on some prehistoric trails and roads in Utah as communication networks.

RECORD KEEPING: Extending Communication Over Time

During our excavation of the Temple of the Winged Lions at Petra, it became clear that the treasure that the principle investigator, Dr. Philip Hammond, wanted most to uncover was the library of records that he could only suspect existed somewhere beneath the acres of rubble. Careful records were kept by most literate cultures, and as religious organizations were frequently the center of power, the records were accumulated and stored in their temples.

While early records were recorded on such diverse materials as silk,

animal skin, wood, bark, leaves (Ascher and Ascher, p.40) and other biodegradable materials, the archaeological record strongly favors such durable materials as carvings on stone in both meso-America and the arid Mid East, papyrus stored in dry caves of the Mid East and carvings on clay tablets in ancient Sumer. All of these media have been studied extensively and adequately summarized by Innis (Crowley and Heyer,1991). A more complete discussion is found in Innis' classical works, *Empire and Communications* and *The Bias of Communication*. Papyrus, of course, was useful not only for record-keeping but also for transporting messages geographically throughout the ancient world.

Quipu

A particularly sophisticated medium for record-keeping was the quipu used by the Inca culture of Peru. A quipu is described by Ascher and Ascher as, "a collection of cords with knots tied in them." (p. 36) Most frequently constructed of strings of cotton and occasionally wool, a quipu looks something like an old mop.

Immense amounts of information about census, composition of work forces, output of gold mines, the amount and kinds of tribute, contents of warehouses and the accomplishments of rulers were recorded on quipus. (Ascher and Ascher, pp. 37-38) This was made possible by varying physical properties in the construction of the quipu. Cords could vary in their horizontal location (left to right spacing) as well as their vertical orientation or direction up or down from the main cord. Off of each vertical cord could be attached subsidiary cords with sub-subsidiary cords and so on, in a system of subordination and coordination much like a

written outline.

Much as we have widely accepted color codes for traffic signals and the far more sophisticated color coding of electronic resistors, quipu cords were varied in color. Cords could be a wide variety of solid colors or multiple colors woven together. The number of possible combinations is considerable. While categories and other concepts were recorded by location and color of the cords, knots in the cords represented numbers.

While the quipu coding system was inflexible in that an individual needed to conform to a system defined by a larger group, the amount of information that could be processed was immense. In addition to being highly skilled, the access of the quipu maker to privileged information must have made him a privileged person in society. (Ascher and Ascher, p. 42)

ART AS COMMUNICATION

Art, of course, occurs in an almost infinite number of media. Of particular interest to archaeologists has been painting on ceramic vessels and rock art. A paper by Dr. Sally Cole on Rock Art as communication will be read later in the panel.

Painting on pottery has been one of archaeologists' primary lenses into life-ways in ancient cultures. One cannot visit a prestigious museum without encountering Grecian pottery covered by paintings of anthropomorphic figures depicting virtually every aspect of life during the golden age of Greece. Pottery construction and decoration has been so extensively studied that even a summary is beyond the scope of this paper.

Ostraca

However, one particularly interesting and, to the novice, obscure medium of communication was the practice of writing notes or brief messages on fragments of pottery--ceramic gummy pads if you will. At Petra, in seven weeks we unearthed, cleaned, recorded and discarded over 10,000 pottery sherds. Only those that were complete or could be reconstructed into at least half of a complete vessel, plate or figure were saved for curation. The sole exception to this rule were the five pottery sherds that were found to have writing on them.

They are called ostraca. The name ostrakon is derived from the same root word as astracism. It dates back to the practice in ancient Greece of banishing people for anti-social behavior. The Harvard Dictionary of Classical Literature and Antiquities describes the process, "Every year the question was put to the people, whether the measure appeared necessary: if they so decided, the citizens who possessed the franchise assembled in the marketplace, and each wrote upon a sherd the name of the person whose banishment he deemed desirable. The man whose name was found upon not less than 6000 sherds had to leave the country in ten days at latest, for ten or five years."(p. 1149)

The use of pottery sherds for brief written messages must have gone considerably beyond this ritual of ostracism. Furthermore, it went beyond the use of pottery sherds. In the Cairo Museum, just down the hall from the Tutenkhamon exhibit, you will find an entire room with glass display cases filled with ostraca. In addition to the familiar sherds are dozens of

lithic flakes with writing on them--some as large as two hands. Ostraca could be considered a means of extending communication not only over time but, being portable, over space as well.

Incised Stones

Another means of extending communication over both time and space is the use of incised stones. Melvin Aikens, excavating a dry cave (Hogup) in northern Utah, reported a number of stones, the size of a human hand or smaller that were incised with patterns that could have been coded messages. Aikens describes a variety of random lines as well as patterns of horizontal lines, longitudinal lines, zigzag lines, horizontal bands, chevron bands, triangular markings and crosshatched lines. Aikens does not speculate as to the function of these stones but they could have been used for a variety of purposes including gaming or communication.

CONCLUSION

It has not been the purpose of this paper to break new ground or draw conclusions that would surprise a professional archaeologist. But I hope that one generalization is clear: that what may have been characterized as pre-literate, ancient or pre-technological cultures possessed a vast array of means of communication that were innovative, flexible, adaptive and functional.

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